Richmond Refinery LPS Bulletin – Reliability

Hydrogen leak on F-355 East Outlet Header

IPS Control: 1775161

Location:
Richmond Refinery

Contact Information:
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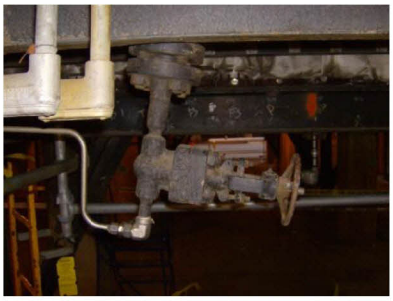
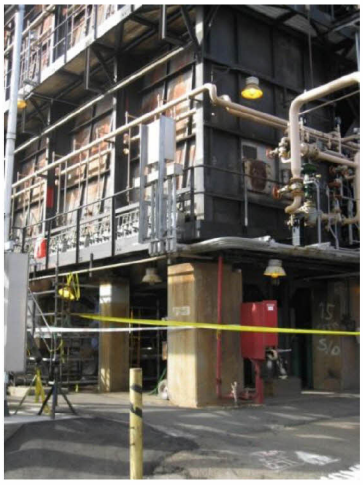
Reference:
Information



Bent piping to instrumentation root valve on the outlet header



Repair work being completed on outlet header.

See the Hazard – YOU are too precious to lose.
Our vision is that we all go home safely every day.

Incident Description:

On December 26, 2009, Operations heard a faint noise from F-355 furnace. This sound was initially thought to be a vacuum leak on the furnace box. Inspections investigated the leak on December 29, 2009 and confirmed that the sound was not a vacuum leak, but rather a leak on the piping connection to PI-3577. The crack in the line was not visible at that time, since the leak was coming from inside the furnace and the view was obstructed. Once the leak was found, F-355 C cell was put on steam feed.
The costs associated with this incident added up to $7.1MM and a TapRooT investigation was conducted.

Investigation Findings:

1) The crack in the piping connection to PI-3577 was due to the stress from the connection being bent.
2) The Investigation Team could not determine the cause of the bend or when the piping was bent.
3) The bend most likely occurred from a collision with a piece of equipment.

Lessons Learned / Business Practices:

1) Operations or Maintenance will not be able address a potential leak that may be caused by an unintended incident (e.g., a collision with piping) unless properly notified by the party who collided with the piping/equipment.

What Worked Well:

1) Operations was able to detect the faint sound of a leak in a noisy area.

Recommendations:

1) When performing work in operating units, regardless if you are an employee or contractor, it is vital to notify the Head Operator or Shift Team Leader, if you happen to collide with piping or equipment. Even if no apparent damage has occurred, the proper personnel should be notified so any potential unseen damage can be investigated and any necessary corrective actions can be implemented to prevent a potential incident from occurring.

Tenets of Operations Violated

1) Tenet 6 – Always maintain integrity of dedicated systems
2) Tenet 8 – Always address abnormal conditions